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Total Number of Pages in This Submission

6

Application Number

10/563,686

Filing Date

International Filing Date: July 7, 2004

First Named Inventor

J. Christopher Anderson

Group Art Unit

Unassigned

Examiner Name

Unassigned

Attorney Docket Number

54-000330US

## ENCLOSURES (check all that apply)

- ☐ Fee Transmittal Form  
☐ Fee Attached  
☐ Amendment / Response  
☐ After Final  
☐ Affidavits/declaration(s)  
☐ Extension of Time Request  
☒ Receipt Acknowledgement Postcard  
☒ Information Disclosure Statement  
☐ Certified Copy of Priority Document(s)  
☐ Response to Missing Parts/ Incomplete Application  
☐ Response to Missing Parts under 37 CFR 1.52 or 1.53

- ☒ PTO-1449 Form  
☒ Cited References  
☐ Licensing-related Papers  
☐ Petition Routing Slip (PTO/SB/69) and Accompanying Petition  
☐ Petition to Convert to a Provisional Application  
☐ Power of Attorney, Revocation Change of Correspondence Address  
☐ Terminal Disclaimer  
☐ Small Entity Statement  
☐ Request for Refund

- ☐ After Allowance Communication to Group  
☐ Appeal Communication to Board of Appeals and Interferences  
☐ Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)  
☐ Proprietary Information  
☐ Status Letter  
☐ Additional Enclosure(s) (please identify below):

Authorization to Charge Deposit Account  
Please charge Deposit Account No. 50-0893 for any additional fees associated with this paper or during the pendency of this application, including any extensions of time for consideration of the documents enclosed.

Remarks

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm  
or  
Individual name

Jonathan Alan Quine, Reg. No. 41,261, Quine Intellectual Property Law Group P.C.

Signature

*Jonathan Alan Quine*

Date

September 14, 2006

## CERTIFICATE OF MAILING

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Typed or printed name

Deborah Berwick

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*Deborah Berwick*

Date

September 14, 2006

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /K.G./



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QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C.

By

*Deborah Berwick*  
Deborah Berwick

Attorney Docket No. 54-000330US  
TSRI Ref. No. 1001.2 B US/NOV0547P  
Novartis Ref. No. DC/4-34045

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

J. Christopher Anderson, et al.

Application No.: 10/563,686

International Filing Date: July 7, 2004

For: COMPOSITIONS OF  
ORTHOGONAL LYSYL-tRNA and  
AMINOACYL-tRNA SYNTHETASE  
PAIRS AND USES THEREOF

Confirmation No. 8860

Examiner: Unassigned

Art Unit: Unassigned

INFORMATION DISCLOSURE  
STATEMENT UNDER 37 CFR § 1.97 and  
§ 1.98

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The references cited on attached form PTO-1449 are being called to the attention of the Examiner. Copies of the references are enclosed. Copies of the cited US Patent applications have not been enclosed because they are no longer required by the office for submission. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement, since it is being submitted prior to the first Office Action on the merits per 37 CFR 1.97(b)(3). However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 50-0893. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,



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Substitute for form 1449A-B/PTO

## Complete if Known

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Application Number	10/563,686
International Filing Date	July 7, 2004
First Named Inventor	J. Christopher Anderson
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	54-000330US
Date Submitted	September 14, 2006

## U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number	Kind Code (if known)			
	1	7,045,337		Schultz, et al.	05-16-2006	
	2	7,083,970		Schultz, et al.	08-01-2006	

## FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				
	3	WO	2002/085923	A2	The Scripps Research Institute	10-31-2002		

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
	4	ANDERSON AND SCHULTZ (2003) "Adaptation of an Orthogonal Archaeal Leucyl-tRNA and Synthetase Pair for Four-base, Amber, and Opal Suppression." <i>Biochemistry</i> , 42: 9598-9608.	
	5	ANDERSON ET AL. (2004) "An expanding genetic code with a functional quadruplet codon." <i>Proceedings of the National Academy of Sciences, USA</i> , 101(20): 7566-7571.	
	6	ANDERSON ET AL. (2002) "Exploring the limits of codon and anticodon size." <i>Chemistry &amp; Biology</i> , 9: 237-244.	
	7	BOSSI AND ROTH (1981) "Four-base codons ACCA, ACCU and ACCC are recognized by frameshift suppressor sufJ." <i>Cell</i> , 25(2): 489-496.	
	8	CHEN ET AL. (1994) "Properties of the lysyl-tRNA synthetase gene and product from the extreme thermophile <i>Thermus thermophilus</i> ." <i>Journal of Bacteriology</i> , 176(9): 2699-2705.	
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	10	CHIN ET AL. (2003) "An expanded eukaryotic genetic code." <i>Science</i> . 301: 964-967.	
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	12	CURRAN AND YARUS (1987) "Reading frame selection and transfer RNA anticodon loop stacking." <i>Science</i> , 238: 1545-1550.	
	13	FURTER (1998) "Expansion of the genetic code: Site-directed p-fluoro-phenylalanine incorporation in <i>Escherichia coli</i> ." <i>Protein Science</i> , 7(2): 419-426.	

Examiner Signature		Date Considered	
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14	HOHSAKA AND SISIDO (2002) "Incorporation of non-natural amino acids into proteins." <i>Current Opinion in Chemical Biology</i> , 6: 809-815.	
15	HOHSAKA ET AL., (1999) "Incorporation of two nonnatural amino acids into proteins through extension of the genetic code." <i>Nucleic Acids Symposium Series</i> , 42: 79-80.	
16	HOHSAKA ET AL. (2001) "Five-base codons for incorporation of nonnatural amino acids into proteins." <i>Nucleic Acids Research</i> , 29(17): 3646-3651.	
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18	IBBA ET AL. (1999) "Substrate recognition by class I lysyl-tRNA synthetases: a molecular basis for gene displacement." <i>Proceedings of the National Academy of Sciences, USA</i> , 96(2): 418-423.	
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22	MEHL ET AL. (2003) "Generation of a bacterium with a 21 amino acid genetic code." <i>Journal of the American Chemistry Society</i> , 125: 935-939.	
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25	SANTORO ET AL. (2002) "An efficient system for the evolution of aminoacyl-tRNA synthetase specificity." <i>Nature Biotechnology</i> , 20:1044-1048.	
26	TERADA ET AL. (2002) "Functional convergence of two lysyl-tRNA synthetases with unrelated topologies." <i>Nature Structural Biology</i> , 9(4): 257-262.	
27	WANG ET AL. (2000) "A New Functional Suppressor tRNA/Aminoacyl-tRNA Synthetase Pair for the in Vivo Incorporation of Unnatural Amino Acids into Proteins." <i>Journal of the American Chemistry Society</i> , 122: 5010-5011.	
28	WANG ET AL. (2001) "Expanding the genetic code." <i>Science</i> , 292: 498-500.	

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29	WANG ET AL. (2003) "Addition of the keto functional group to the genetic code of <i>Escherichia coli</i> ." <i>Proceedings of the National Academy of Sciences, USA</i> , 100: 56-61.	
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Examiner Signature	/Kagnew Gebreyesus/	Date Considered	05/02/2008
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